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## WETLAND DELINEATION REPORT



**CITY OF GREEN BAY REDEVELOPMENT AUTHORITY PROPERTY**  
**GUNS STREET, CITY OF GREEN BAY & VILLAGE OF BELLEVUE, BROWN COUNTY, WI**  
**PARCEL #23-243-1 AND #B-243-4**

June 21, 2022



ENVIRONMENTAL HEALTH & SAFETY EXPERTS

# WETLAND DELINEATION REPORT

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GUNS STREET, CITY OF GREEN BAY & VILLAGE OF BELLEVUE, BROWN COUNTY, WI  
PARCEL #23-243-1 AND #B-243-4**

*Prepared For:*

Mr. Troy Collins  
Point of Beginning, Inc.  
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*Prepared By:*



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Green Bay, Wisconsin 54301

A handwritten signature in black ink, appearing to read "Mark Love".

Mark Love, PSS  
Project Manager  
Assured Wetland Delineator

A handwritten signature in black ink, appearing to read "JR".

Jim Rabideau, PG  
Sr. Project Manager/President

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## **INTRODUCTION**

Bay Environmental Strategies, Inc. (BAY) performed a wetland determination and delineation on behalf of Point of Beginning, Inc. The property is owned by the City of Green Bay Redevelopment Authority. The project area is approximately 25 acres in size, and is made up of two parcels (Parcel #23-243-1 and Parcel #B-243-4). Although the parcels are adjoining, they are located within different municipal boundaries. Parcel # 23-243-1 is located in the City of Green Bay and Parcel #B-243-4 is located in the Village of Bellevue. The project site is legally described as being in Section 8, Township 23 North, Range 21 East, City of Green Bay and Village of Bellevue, Brown County, Wisconsin. Figure 1, Site Location Map, illustrates the location of the project area.

The purpose and objective of the wetland determination and delineation was to identify if wetlands were present within the project area, and if so, determine the extent and spatial arrangement of the wetlands within the project boundaries. Figure 2, Site Detail Map, illustrates the project site boundaries.

The project site consists primarily of agricultural fields and an undeveloped, wooded area along the west project boundary. The surrounding area is comprised of commercial businesses and residential properties. There were no drainage improvements observed within the project site, and it is primarily open crop field planted in soybeans and winter wheat.

There is a downward slope from east to west across the project site from an elevation of around 646 to 608 feet above msl. Based on site topography, it appears that, in general, the surface water runoff within the project site would flow to the west. There are no stormwater management features present within, or adjacent to, the project site.

One wetland was identified within the project site and its boundary was delineated up to the limits of the project area. The wetland is located in the western portion of the project site and encompasses the wooded portion of the project site, as well as, some of the agricultural field adjacent to the wooded area. The wetland continues offsite to the north, west, and to the south onto the railroad right-of-way.

The hydrology, soils and vegetation were considered normal within the project site at the time of delineation; however, the soils and vegetation were disturbed by cultivation and planting. The determination of normal conditions was made due to the undisturbed hydrology, presence of hydric soil indicators in the cultivated areas, and presence of volunteer vegetation in the planted areas. Based on the ACOE Antecedent Precipitation vs. Normal Range tool, precipitation during the three-month period prior to the field investigation was considered to be normal. The delineation was completed during the growing season. The precipitation was taken into consideration during the field evaluation.

BAY representatives Mr. Mark Love and Ms. Emily Vandersteen conducted the field investigation on June 2, 2022. Mr. Love is a Wisconsin Department of Natural Resources (WDNR) Assured Wetland Delineator, and was the lead field investigator and report author for this project.



## 1.0 DELINEATION METHODOLOGY

The initial steps in the wetland determination and delineation process prior to any field work included a review of the following documents/resources:

- Natural Resources Conservation Service (NRCS), Custom Soil Survey of Brown County, Wisconsin.
- 2-foot County Topographic Map from Brown County Geographic Information Systems (GIS).
- Brown County Aerial Imagery - 2020.
- Wisconsin Department of Natural Resources (WDNR) - Wetland Inventory Maps (WIM).
- ACOE Antecedent Precipitation vs Normal Range tool.

These resources provide information on areas that possess a high likelihood of wetlands occurring. The site was then visited to make on-site determinations if wetlands are present and, if so, complete delineations of the uppermost wetland boundary. Generally, wetland areas are initially identified by vegetative differences (wetland indicator status) or by elevation differences. The wetland boundary line is determined first by vegetative differences, then by the presence or absence of soil indicators and diminished or absent hydrologic indicators.

Wetland determinations were made using the criteria and methods outlined in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0, and the Basic Guide to Wisconsin's Wetlands and Their Boundaries (Wisconsin Department of Administration Coastal Management Program). The USACE and the U.S. Environmental Protection Agency (USEPA) wetland definition is included below:

“Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions.”

According to procedures described in this Supplement, areas that under normal circumstances reflect a predominance of hydrophytic (water loving) vegetation, hydric soils and wetland hydrology (i.e. Inundated or saturated soils) are considered wetlands.

- Hydrophytic vegetation is present when the plant community is dominated by species that can tolerate prolonged inundation or soil saturation during the growing season.
- A hydric soil is defined as a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.
- Wetland hydrology indicators provide readily observable evidence that episodes of inundation or soil saturation lasting more than a few days during the growing season have occurred repeatedly over a period of years and that the timing, duration, and frequency of wet conditions have been sufficient to produce a characteristic wetland plant community and hydric soil morphology.

To complete the wetland determination, sample points were established along the wetland boundary in representative areas where vegetation or surface elevation reflected a change, or where visible hydrology indicators are noted. At each sampling point, vegetation evaluation was completed to determine presence or absence of hydrophytic vegetation, a soil pit was dug to determine if hydric soil indicators are present, and an assessment of the presence of hydrology indicators was performed. The data points were completed in pairs, or transects, to confirm the presence of a wetland, as well as, non-wetland (upland). The location of the wetland boundary was then determined between the upland sample point and wetland sample point.

BAY used the following vegetation sampling method which is suggested in the Supplement for use for this region:

- A 5-foot radius circular (78.5 square foot) quadrat sampling method was used for herbaceous vegetation.
- A 30-foot radius from the center of the quadrat was used for sampling trees.
- A 15-foot radius from the center of the quadrat was used for sampling shrubs, saplings and vines.

Vegetation within the sampling area was identified to the species level and the appropriate wetland indicator status assigned using the ACOE 2020 National Wetland Plant List (version 3.5) for the Northcentral/Northeast Region. Once identified, the prevalence or dominance of hydrophytic vegetation was determined and compared to established criteria to document the presence or absence of hydrophytic vegetation. Wetland vegetation indicator status is ranked by percent probability of the species occurrence in wetlands as follows:

- OBL = Obligate wetland, almost always occur in wetlands.
- FACW = Facultative wetland, usually occur in wetlands, but may occur in non-wetlands.
- FAC = Facultative equally wetland/non-wetland, occur in wetlands and non-wetlands.
- FACU = Facultative upland, usually occur in non-wetlands, but may occur in wetlands.
- UPL = Obligate upland, almost never occur in wetlands.

The recorded soils data at each sample point was used to determine the presence or absence of hydric soil indicators per the Natural Resource Conservation Service (NRCS) Field Indicators of Hydric Soils in the United States (version 8.2, 2018) for Land Resource Region K, the region for which the project site is located.

The Regional Supplement lists four groups totaling over thirty hydrology indicators that can be used to infer that wetland hydrology occurs onsite: (1) direct observation of surface water or saturated soils, (2) evidence of recent inundation, (3) evidence of recent soil saturation, and (4) other evidence. Within each group, indicators are divided into two categories – primary and secondary – based on their estimated reliability in this region. One primary indicator from any group is sufficient to conclude that wetland hydrology is present; the area is a wetland if indicators of hydric soil and hydrophytic vegetation are also present. In the absence of a primary indicator, two or more secondary indicators from any group are required to conclude that wetland hydrology is present. At each sample point location BAY completed a hydrology evaluation and, if present, noted all primary and secondary indicators.

Wetland determination forms for the Northcentral and Northeast region were completed for sample points placed within the project area. These data forms are included as Appendix A.

Photographs were taken during the field investigation of representative sample point locations. The photographs are provided in Appendix B.

#### Modification of Methods

No methods were modified.

## **2.0 SITE CONDITIONS**

### Topography

Based on topographic information provided by Brown County GIS, there is a gradual downward slope from the southeast to northwest from around 646 to 608 msl that continues throughout the project site. Figure 3, Site Topography Map, illustrates the topography of the project site and adjoining area.

Based on observed site topography, it appears that, in general, the surface water runoff within the project site would flow to the northwest side of the site. There are no stormwater management features present within, or adjacent to, the project site.

### Plant Communities

Two wetland types were identified within the project site. The wetlands most closely resembled a hardwood swamp or T3K type wetland (T3K = T – forested, 3 – broad-leaved deciduous, K – wet soil), and fresh wet meadow or E1K type wetland (E1K = E – emergent/wet meadow, 1 – persistent, K – wet soil).

The vegetation at sample points located in the agricultural field was altered due to cropping practices. Only volunteer weed species were considered for hydrophytic vegetation determination in these areas.

Vegetation was evaluated at each wetland sample point location and identified to the species level with the appropriate wetland indicator status then assigned using the ACOE 2020 National Wetland Plant List (version 3.5) for the Northcentral/Northeast Region. The wetland sample points were dominated by the following plants which have a FAC, FACW, or OBL indicator status:

<u>Common Name</u>	<u>Scientific Name</u>	<u>Indicator Status</u>
Common Reed	Phragmites australis	FACW
Yellow Nutsedge	Cyperus esculentus	FACW
Eastern Cottonwood	Populus deltoides	FAC
Green Ash	Fraxinus pennsylvanica	FACW
Common Buckthorn	Rhamnus cathartica	FACW
Field Horsetail	Equisetum arvense	FAC

Dominant plant species within the adjacent uplands that have a FAC, FACU or UPL indicator status included the following:

<u>Common Name</u>	<u>Scientific Name</u>	<u>Indicator Status</u>
Annual Ragweed	Ambrosia artemisiifolia	FACU
Broadleaf Plantain	Plantago major	FACU
Red Fescue	Festuca rubra	FACU

A list of all species identified at each sample point location is provided in the data forms (Appendix A).

### Soils

At each sample point location, a soil pit was dug using a soil auger to a minimum depth of 20 inches, if site geology allowed, and the soil profile was recorded based on depth, color, soil texture, and presence of oxidation or redox features. This data was then used to determine the presence or absence of hydric soil indicators. Hydric soil indicators are formed predominantly by the accumulation or loss of iron, manganese, sulfur, or carbon compounds (organic matter) in a saturated and anaerobic environment. If one or more of the hydric soil indicators are present, the soil was considered hydric.

The Soil Survey of Brown County, provided by the Brown County GIS website identified five soil types to be present within the project area. Figure 4, Soils Map, illustrates the soils present within the project area. An NRCS Web Soil Survey series description and hydric rating report for the soil series present on the property is provided as Appendix C. The following table provides a summary of the soils mapped as being present within the project area.

Hydric Rating by Map Unit (WI)–Brown County, Wisconsin				
Map Unit Symbol	Map Unit Name	Hydric Percent of Map Unit	Hydric Category	Landform Hydric Minor Components
DsA	Dresden silt loam, wet substratum, 1 to 3 percent slopes	5	WI Predominantly Nonhydric	Depressions
KhB2	Kewaunee silt loam, 2 to 6 percent slopes, eroded	2	WI Predominantly Nonhydric	Depressions
KhC2	Kewaunee silt loam, 6 to 12 percent slopes, eroded	0	WI Nonhydric	—
McA	Manawa silty clay loam, 0 to 3 percent slopes	4	WI Predominantly Nonhydric	Depressions
MeB	Manistee loamy fine sand, 2 to 6 percent slopes	3	WI Predominantly Nonhydric	Depressions

The soils in the wetland areas displayed the NRCS hydric soil indicators of Redox Dark Surface (F6) and High Chroma Sands (S11). Based on the soil profile and presence of redox features, more than one hydric soil indicator can be present.

The soils in the upland area did not display any hydric characteristics.

#### Hydrology

The following wetland hydrology indicators were observed during the field investigation:

##### **Primary Indicators**

- Saturation (A3)
- Water-Stained Leaves (B9)
- Oxidized Rhizospheres on Living Roots (C3)

##### **Secondary Indicators**

- FAC-Neutral Test (D5)
- Saturation Visible on Aerial Imagery (C9)

Based on the ACOE Antecedent Precipitation vs Normal Range tool, the three-month period prior to the field investigation was considered to be normal. A copy of the precipitation evaluation worksheet is provided in Appendix D. The antecedent rainfall was taken into consideration during the field activities.

#### Existing Wetland Mapping and Designated Waterways

The wetland inventory map (WIM) on the WDNR Surface Water Data Viewer showed mapped wetlands present within the project area. The wetlands were identified as T3K (T = Forested, 3 = broad-leaved deciduous, K = wet soil) and E1K (E= emergent/wet meadow, 1= persistent, K= wet soil) type wetlands. The mapped wetland area appeared similar to the delineated wetland boundary. The WIM for the project site and surrounding area is provided in Appendix E.

### **3.0 WETLAND HYDROLOGY FROM AERIAL IMAGERY REVIEW**

Because the project area has primarily consisted of agricultural fields both currently and historically, an FSA slide review and completion of the Minnesota Board of Water and Soil Resources (BSWR) method for determining hydrology from aerial imagery was performed. BAY reviewed historical aerial photographs from the Brown County GIS website for years 1978, 1992, 2000, 2005, 2010, 2014, 2017 and 2020.



Based on presence of hydric soils, WIM identified wetlands, and topography, three areas were determined to have potential for wetlands within the project site and were reviewed for wetland signatures. Only years with normal precipitation were considered during the aerial imagery wetland determination. Wetland signatures were observed in all three potential wetland areas over multiple years. These signatures included visible soil saturation and areas that were not cropped. The aerial photographs indicate the presence of wetlands due to wetland signatures that have remained throughout historic land use. A copy of the aerial imagery is provided as Appendix F.

#### **4.0 FINDINGS AND CONCLUSIONS**

One wetland was identified, and its boundary delineated, within the project site. The wetland is not fully contained within the project site and does extend beyond the project boundaries to the northwest. The location of the wetland and its boundary are indicated on the attached Figure 5, Wetland Delineation Map. This map provides an illustration of the wetland boundary, as well as, sample point locations.

It is important to note, that this report applies specifically to the project area shown on the accompanying wetland map. It is the responsibility of all involved to know the exact wetland locations and their boundaries.

Mr. Love is an Assured Wetland Delineator who has earned the Assured Wetland Delineator status from the Wisconsin Department of Natural Resources. This assurance means automatic concurrence on any project which Mr. Love is the lead field investigator and report author. As a requirement of the assurance program reporting standards, this report is made available to the WDNR, who may select this project as part of an annual audit process. Refer to Appendix G –Assured Wetland Delineator Confirmation Letter for additional information.

Some wetlands are considered waters of the U.S. and are therefore subject to regulation under Section 404 of the Clean Water and the jurisdictional authority lies with the USACE. The WDNR has regulatory authority over non-federal wetlands under Chapter 30 Wisconsin State Statutes and Wisconsin Administrative Code NR103. The County may have additional regulatory authority through their Shoreland/Wetland Zoning Ordinances.

Please note that this wetland delineation identified the wetland boundary per current federal and state guidelines. The WDNR and County may restrict land use in close proximity to the wetland through setbacks, zoning, buffers or environmental corridors. There may also be a need for WDNR Chapter 30, USACE Section 404 Clean Water Act Review, or local permits for any work to be done on the site.

#### **5.0 LIMITATIONS**

The information provided regarding wetland determination or boundaries, and the opinions presented are best estimates of the conditions at the time the project site was viewed. The ultimate decision on wetland boundaries rests with the WDNR, USACE (for federal wetlands), or a local unit of government. As a result, there may be adjustments to boundaries based upon review of a regulatory agency. An agency determination can vary from time to time depending on various factors including, but not limited to, the experience of the agency representative making the determination and the season of the year. In addition, the physical characteristics of the site can change with time, depending on the weather, vegetation patterns, drainage, activities on adjacent parcels, or other events. Any of these factors can change the nature and extent of wetlands if present on the site. It is recommended the client obtain an opinion and authority from regulating government agencies before proceeding with any development or utilization of the site (ie; submittal of this document). If the client proceeds to change, modify or utilize the site in question without obtaining authorization from the regulating governmental agency, it will be done at the client's own risk and BAY will not be responsible or liable for any resulting damages.

## 6.0 REFERENCES

Basic Guide to Wisconsin's Wetlands and Their Boundaries, Wisconsin Department of Administration and Wisconsin Coastal Management Program, 1995.

Online GIS Map for Brown County, Wisconsin.

<https://www.arcgis.com/apps/webappviewer/index.html?id=61fba3fd419045e48aa6ba759838387c>

Field Guide for Wetland Delineation: 1987 Corps of Engineers Manual, Wetland Training Institute, 1998.

Munsell Color Corporation. 2010. *Munsell Soil Color Charts*.

Natural Resource Conservation Service, *National Water and Climate Center*. <http://agacis.rcc-acis.org/>. June 2022.

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United States Army Corps of Engineers (USACE). Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0. 2012. US Army Engineer Research and Development Center, Vicksburg, MS, USA.

USACE, *Antecedent Precipitation vs Normal Range tool*. [Release APT v1.0.13 · jDeters-USACE/Antecedent-Precipitation-Tool · GitHub](#).

USACE. 2020. National Wetland Plant List, [Federal Register :: National Wetland Plant List](#). U.S. Army Corps of Engineers - Engineer Research and Development Center-Cold Regions Research and Engineering Laboratory, Hanover, NH

USACE. 2016. *Guidance for Offsite Hydrology / Wetland Determinations*. St. Paul District & Minnesota Board of Water & Soil Resources. <http://www.mvp.usace.army.mil/Missions/Regulatory/Delineation>.

USACE. 2015. *Guidance for Submittal of Delineation Reports to the St. Paul District Army Corps of Engineers and the Wisconsin Department of Natural Resources*. St. Paul District Regulatory, St. Paul, Minnesota.

USDA, NRCS. 2018. Field Indicators of Hydric Soils in the United States, A Guide for Identifying and Delineating Hydric Soils, Version 8.2. L.M. Vasilas and G.W. Hurt (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

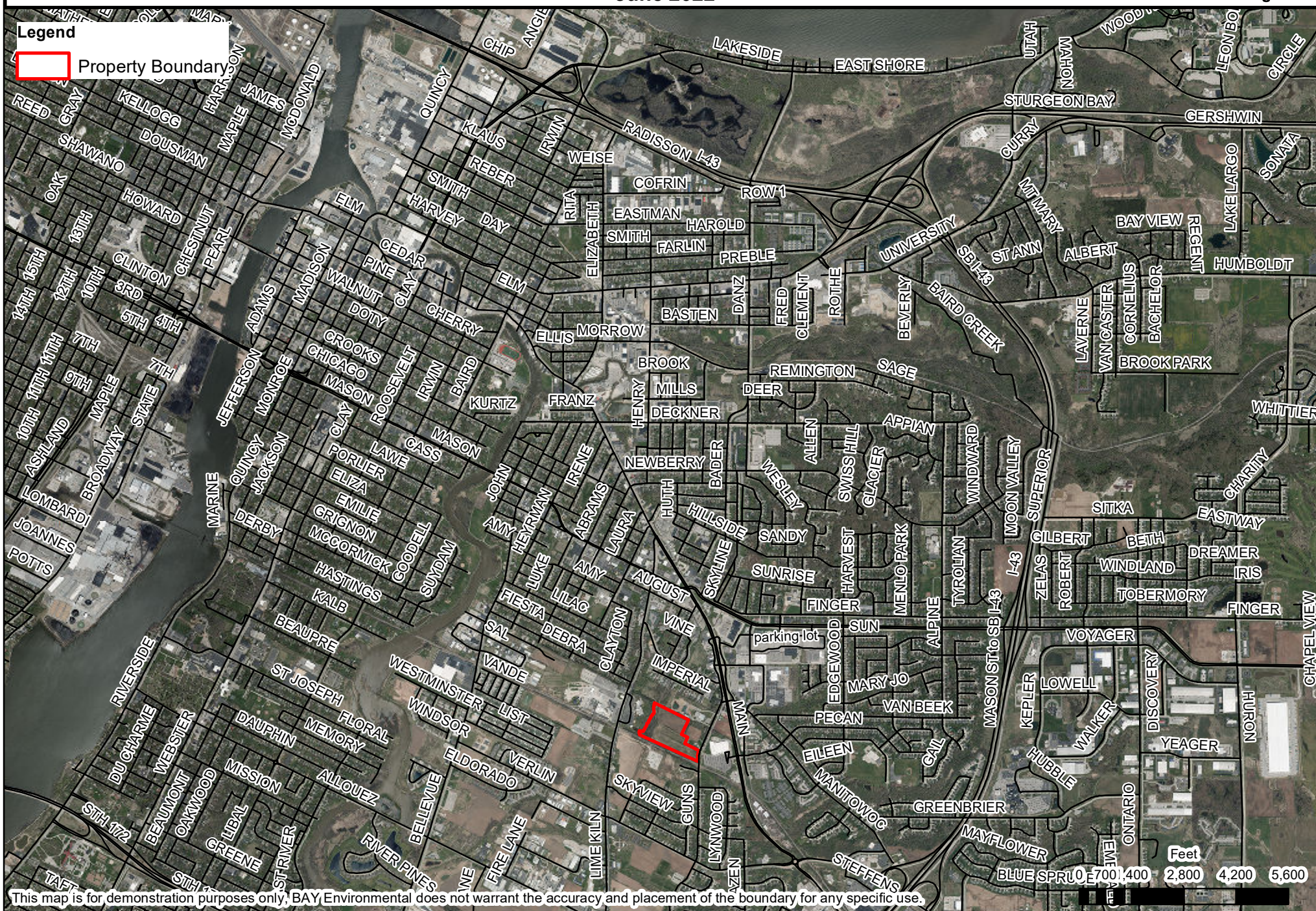
Wisconsin Department of Natural Resources. 2022. *Surface Water Data Viewer*. <http://dnrmaps.wi.gov/sl/?Viewer=SWDV>.

## **7.0 QUALIFICATIONS OF DELINEATOR**

### **Mark Love – Professional Soil Scientist**

- UW-Stevens Point – BS – Natural Resources Management, 1994
- Wetland Delineation and Management (40 Hrs), Chinn Environmental Training, 2003
- Basic Wetland Delineation – WDNR and UW-LaCrosse, 2005
- Advanced Wetland Delineation – WDNR and UW-LaCrosse, 2005
- Wetland Plant Identification – WDNR and UW-LaCrosse, 2007
- Critical Methods in Wetland Delineation – WDNR, 2009, 2010, 2011, 2019, 2020, 2022
- Assured Wetland Delineator by the Wisconsin Department of Natural Resources, 2020 - 2022




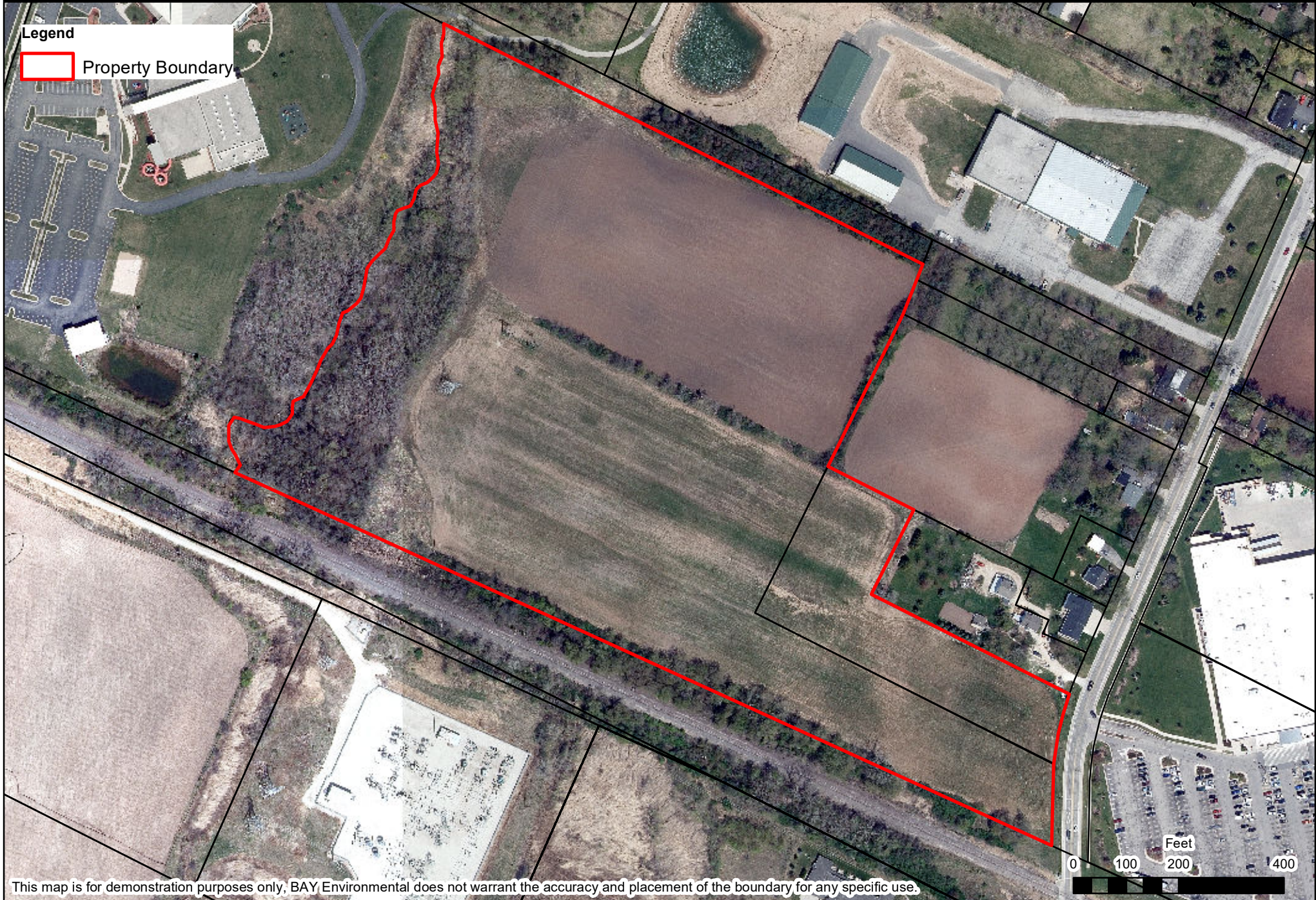






**Legend**

 Property Boundary

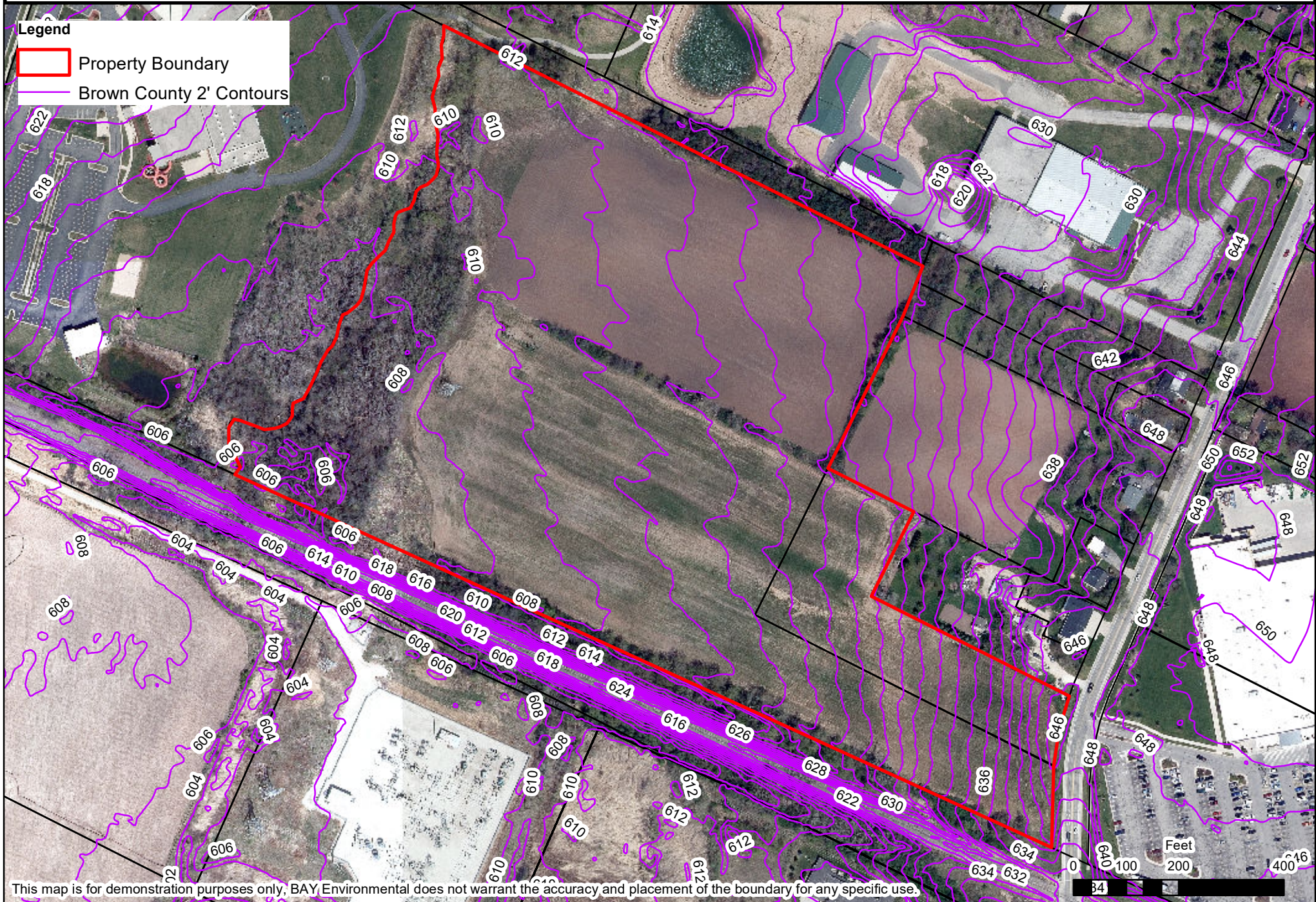




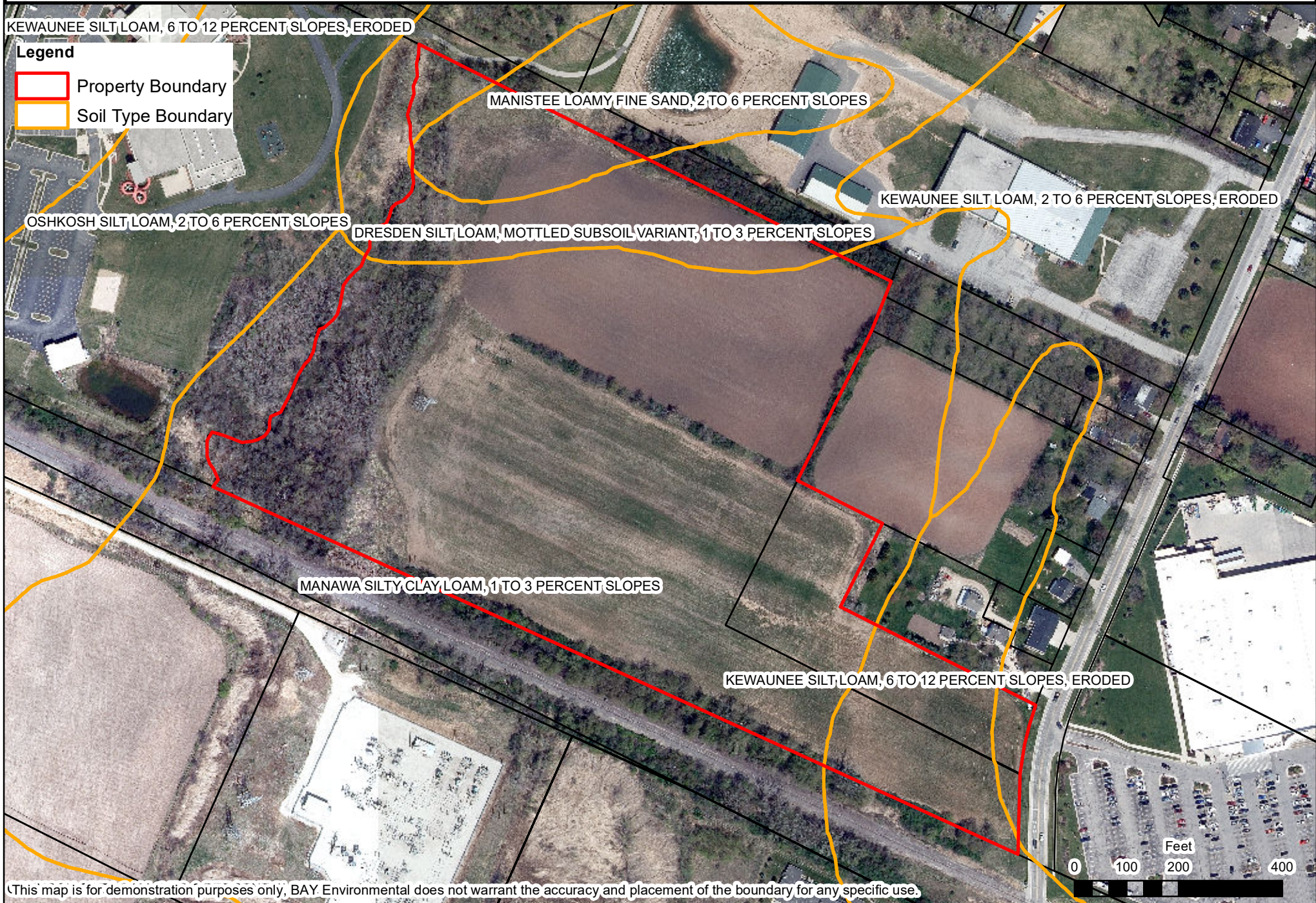
**Figure 3 - Site Topography Map**  
**City of Green Bay Redevelopment Authority Property**  
**Parcel #23-243-1 and #B-243-4, Green Bay, Brown County, WI**  
**June 2022**



- Legend**
- Property Boundary
  - Brown County 2' Contours





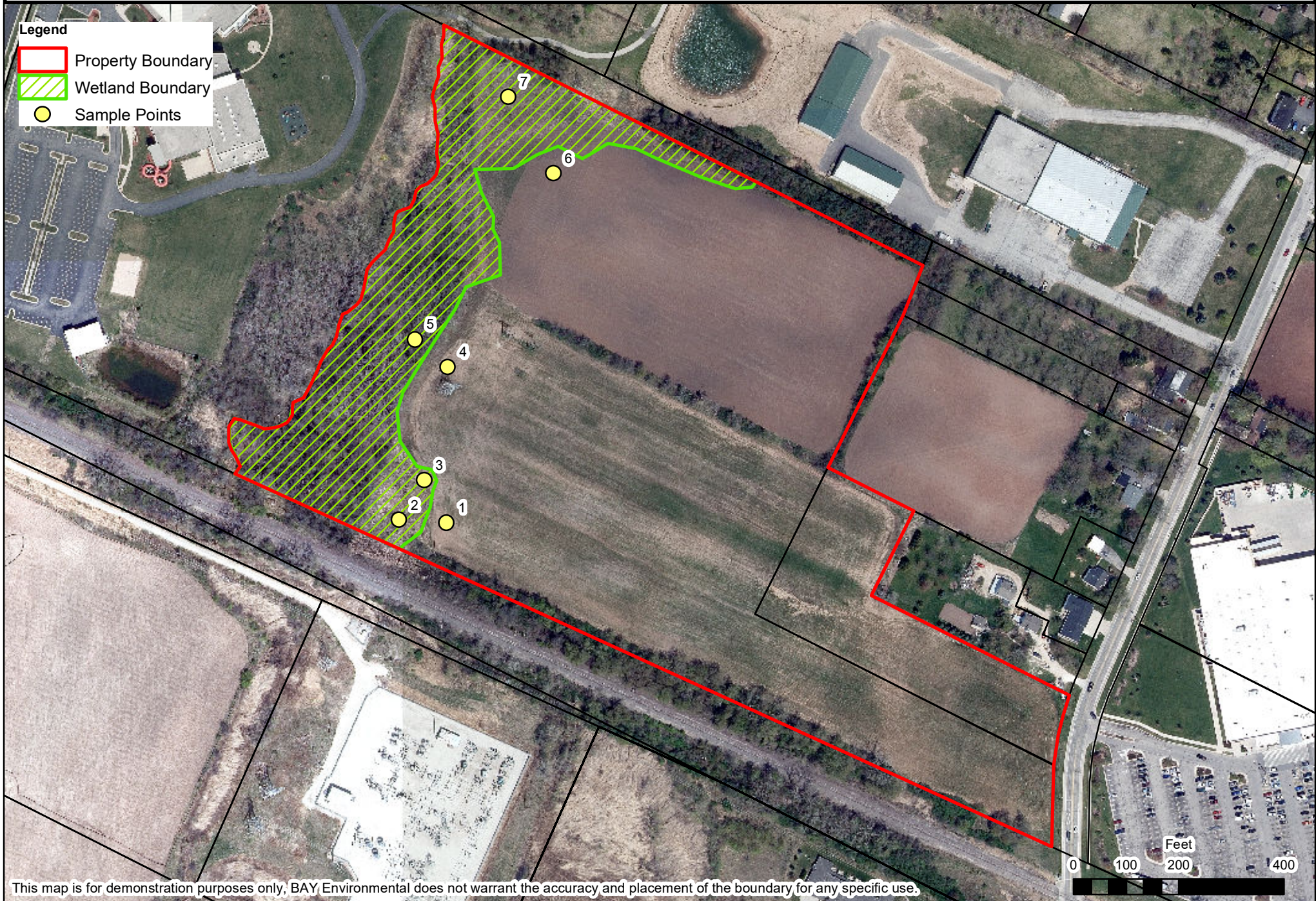




**Figure 5 - Wetland Delineation Map**  
**City of Green Bay Redevelopment Authority Property**  
**Parcel #23-243-1 and #B-243-4, Green Bay, Brown County, WI**  
**June 2022**

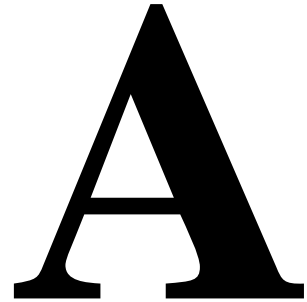


- Legend**
- Property Boundary
  - Wetland Boundary
  - Sample Points



This map is for demonstration purposes only, BAY Environmental does not warrant the accuracy and placement of the boundary for any specific use.





## **APPENDIX A**

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Wetland Determination Data Forms

<b>U.S. Army Corps of Engineers</b> <b>WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region</b> See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R	<i>OMB Control #: 0710-0024, Exp: 11/30/2024</i> <i>Requirement Control Symbol EXEMPT:</i> <i>(Authority: AR 335-15, paragraph 5-2a)</i>
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Project/Site: GB Redevelopment Authority City/County: Green Bay/Brown County Sampling Date: 6/2/22  
Applicant/Owner: Point of Beginning, Inc. State: WI Sampling Point: SP1  
Investigator(s): Mark Love Section, Township, Range: Sect. 8, T23N, R21E  
Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 1-3  
Subregion (LRR or MLRA): LRR K Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation X, Soil X, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Sample point located in active agricultural field planted in soybeans (Glycine max).	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ____ Surface Water (A1)      ____ Water-Stained Leaves (B9) ____ High Water Table (A2)      ____ Aquatic Fauna (B13) ____ Saturation (A3)      ____ Marl Deposits (B15) ____ Water Marks (B1)      ____ Hydrogen Sulfide Odor (C1) ____ Sediment Deposits (B2)      ____ Oxidized Rhizospheres on Living Roots (C3) ____ Drift Deposits (B3)      ____ Presence of Reduced Iron (C4) ____ Algal Mat or Crust (B4)      ____ Recent Iron Reduction in Tilled Soils (C6) ____ Iron Deposits (B5)      ____ Thin Muck Surface (C7) ____ Inundation Visible on Aerial Imagery (B7)      ____ Other (Explain in Remarks) ____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> ____ Surface Soil Cracks (B6) ____ Drainage Patterns (B10) ____ Moss Trim Lines (B16) ____ Dry-Season Water Table (C2) ____ Crayfish Burrows (C8) ____ Saturation Visible on Aerial Imagery (C9) ____ Stunted or Stressed Plants (D1) ____ Geomorphic Position (D2) ____ Shallow Aquitard (D3) ____ Microtopographic Relief (D4) ____ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:		

**VEGETATION** – Use scientific names of plants.

 Sampling Point: SP1

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>N/A</u>				<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)  <b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>37</u></td> <td>x 4 = <u>148</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>37</u> (A)</td> <td><u>148</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>4.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>37</u>	x 4 = <u>148</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>37</u> (A)	<u>148</u> (B)	Prevalence Index = B/A = <u>4.00</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
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2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
				=Total Cover																
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>																				
1. <u>N/A</u>				<b>Hydrophytic Vegetation Indicators:</b> <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
				=Total Cover																
<b>Herb Stratum (Plot size: <u>5'</u>)</b>																				
1. <u>Plantago major</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.  <b>Hydrophytic Vegetation Present?</b> Yes <u>  </u> No <u>X</u>																
2. <u>Ambrosia artemisiifolia</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Festuca rubra</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
4. <u>Amaranthus retroflexus</u>	<u>2</u>	<u>No</u>	<u>FACU</u>																	
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	<u>37</u>			=Total Cover																
<b>Woody Vine Stratum (Plot size: <u>          </u>)</b>																				
1. _____				<b>Hydrophytic Vegetation Present?</b> Yes <u>  </u> No <u>X</u>																
2. _____																				
3. _____																				
4. _____																				
				=Total Cover																

Remarks: (Include photo numbers here or on a separate sheet.)

Sample point located in active agricultural field currently planted in Glycine max. Only weed species utilized for hydrophytic vegetation determination.

## SOIL

Sampling Point      SP1

[illegible]



<b>U.S. Army Corps of Engineers</b> <b>WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region</b> See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R	<b>OMB Control #: 0710-0024, Exp: 11/30/2024</b> <b>Requirement Control Symbol EXEMPT:</b> <b>(Authority: AR 335-15, paragraph 5-2a)</b>
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Project/Site: GB Redevelopment Authority City/County: Green Bay/Brown County Sampling Date: 6/2/22  
Applicant/Owner: Point of Beginning, Inc. State: WI Sampling Point: SP2  
Investigator(s): Mark Love Section, Township, Range: Sect. 8, T23N, R21E  
Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 1-3  
Subregion (LRR or MLRA): LRR K Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____ If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	

Remarks: (Explain alternative procedures here or in a separate report.)  
Sample point located at toe of slope. Unfarmed area in southwest corner of field.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators</u> (minimum of one is required; check all that apply) ____ Surface Water (A1) <u>X</u> Water-Stained Leaves (B9) ____ High Water Table (A2)      ____ Aquatic Fauna (B13) <u>X</u> Saturation (A3)      ____ Marl Deposits (B15) ____ Water Marks (B1)      ____ Hydrogen Sulfide Odor (C1) ____ Sediment Deposits (B2)      ____ Oxidized Rhizospheres on Living Roots (C3) ____ Drift Deposits (B3)      ____ Presence of Reduced Iron (C4) ____ Algal Mat or Crust (B4)      ____ Recent Iron Reduction in Tilled Soils (C6) ____ Iron Deposits (B5)      ____ Thin Muck Surface (C7) ____ Inundation Visible on Aerial Imagery (B7)      ____ Other (Explain in Remarks) ____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators</u> (minimum of two required) ____ Surface Soil Cracks (B6) ____ Drainage Patterns (B10) ____ Moss Trim Lines (B16) ____ Dry-Season Water Table (C2) ____ Crayfish Burrows (C8) ____ Saturation Visible on Aerial Imagery (C9) ____ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) ____ Shallow Aquitard (D3) ____ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>8</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION** – Use scientific names of plants.

 Sampling Point: SP2

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>N/A</u>				<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)  <b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>100</u></td> <td>x 2 = <u>200</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>200</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>100</u>	x 2 = <u>200</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>200</u> (B)	Prevalence Index = B/A = <u>2.00</u>	
Total % Cover of:	Multiply by:																			
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Column Totals: <u>100</u> (A)	<u>200</u> (B)																			
Prevalence Index = B/A = <u>2.00</u>																				
2. _____																				
3. _____																				
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6. _____																				
7. _____																				
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<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>																				
1. <u>N/A</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
=Total Cover																				
<b>Herb Stratum (Plot size: <u>5'</u>)</b>																				
1. <u>Phragmites australis</u>	<u>100</u>	<u>Yes</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  <u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
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11. _____																				
12. _____																				
	<u>100</u>																			
=Total Cover																				
<b>Woody Vine Stratum (Plot size: _____)</b>																				
1. _____				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																
2. _____																				
3. _____																				
4. _____																				
=Total Cover																				

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point      SP2

[illegible]



**VEGETATION** – Use scientific names of plants.

 Sampling Point: SP3

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>N/A</u>				<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)  <b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>20</u> (A)</td> <td><u>50</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.50</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>15</u>	x 2 = <u>30</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>20</u> (A)	<u>50</u> (B)	Prevalence Index = B/A = <u>2.50</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>15</u>	x 2 = <u>30</u>																			
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2. _____																				
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4. _____																				
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				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  </u> 2 - Dominance Test is >50% <u>  </u> X 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
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				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.  <b>Hydrophytic Vegetation Present?</b> Yes <u>  X  </u> No <u>      </u>																
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				<b>Hydrophytic Vegetation Present?</b> Yes <u>  X  </u> No <u>      </u>																
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				<b>Hydrophytic Vegetation Present?</b> Yes <u>  X  </u> No <u>      </u>																
				<b>Hydrophytic Vegetation Present?</b> Yes <u>  X  </u> No <u>      </u>																
				<b>Hydrophytic Vegetation Present?</b> Yes <u>  X  </u> No <u>      </u>																
				<b>Hydrophytic Vegetation Present?</b> Yes <u>  X  </u> No <u>      </u>																
				<b>Hydrophytic Vegetation Present?</b> Yes <u>  X  </u> No <u>      </u>																
				<b>Hydrophytic Vegetation Present?</b> Yes <u>  X  </u> No <u>      </u>																
				<b>Hydrophytic Vegetation Present?</b> Yes <u>  X  </u> No <u>      </u>																
				<b>Hydrophytic Vegetation Present?</b> Yes <u>  X  </u> No <u>      </u>																
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				<b>Hydrophytic Vegetation Present?</b> Yes <u>  X  </u> No <u>      </u>																
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				<b>Hydrophytic Vegetation Present?</b> Yes <u>  X  </u> No <u>      </u>																
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				<b>Hydrophytic Vegetation Present?</b> Yes <u>  X  </u> No <u>      </u>																
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				<b>Hydrophytic Vegetation Present?</b> Yes <u>  X  </u> No <u>      </u>																
				<b>Hydrophytic Vegetation Present?</b> Yes <u>  X  </u> No <u>      </u>																

## SOIL

Sampling Point      SP3

[illegible]





**VEGETATION** – Use scientific names of plants.

 Sampling Point: SP4

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>N/A</u>				<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)  <b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>30</u></td> <td>x 4 = <u>120</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>30</u> (A)</td> <td><u>120</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>4.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>30</u>	x 4 = <u>120</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>30</u> (A)	<u>120</u> (B)	Prevalence Index = B/A = <u>4.00</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>30</u>	x 4 = <u>120</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>30</u> (A)	<u>120</u> (B)																			
Prevalence Index = B/A = <u>4.00</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
=Total Cover																				
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>																				
1. <u>N/A</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
=Total Cover																				
<b>Herb Stratum (Plot size: <u>5'</u>)</b>																				
1. <u>Plantago major</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  <u>Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)</u>  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Ambrosia artemisiifolia</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	<u>30</u>																			
=Total Cover																				
<b>Woody Vine Stratum (Plot size: _____)</b>																				
1. _____				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																
2. _____																				
3. _____																				
4. _____																				
=Total Cover																				

Remarks: (Include photo numbers here or on a separate sheet.)

Sample point located in active agricultural field currently planted in Glycine max. Only weed species utilized for hydrophytic vegetation determination.

## SOIL

Sampling Point SP4

[illegible]



**VEGETATION** – Use scientific names of plants.

 Sampling Point: SP5

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Populus deltoides</u>	<u>60</u>	<u>Yes</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)  <b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>30</u></td> <td>x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>150</u></td> <td>x 3 = <u>450</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>185</u> (A)</td> <td><u>530</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.86</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>150</u>	x 3 = <u>450</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>185</u> (A)	<u>530</u> (B)	Prevalence Index = B/A = <u>2.86</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>30</u>	x 2 = <u>60</u>																			
FAC species <u>150</u>	x 3 = <u>450</u>																			
FACU species <u>5</u>	x 4 = <u>20</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>185</u> (A)	<u>530</u> (B)																			
Prevalence Index = B/A = <u>2.86</u>																				
2. <u>Fraxinus pennsylvanica</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Fraxinus nigra</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>90</u> =Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>																				
1. <u>Rhamnus cathartica</u>	<u>50</u>	<u>Yes</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  <u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>50</u> =Total Cover																		
<b>Herb Stratum (Plot size: <u>5'</u>)</b>																				
1. <u>Rhamnus cathartica</u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.  <b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____																
2. <u>Parthenocissus quinquefolia</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
		<u>45</u> =Total Cover																		
<b>Woody Vine Stratum (Plot size: _____)</b>																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		_____ =Total Cover																		

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point SP5

[illegible]



**VEGETATION** – Use scientific names of plants.

Sampling Point: SP6

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>N/A</u>				<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)  <b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>15</u></td> <td>x 4 = <u>60</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>15</u> (A)</td> <td><u>60</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>4.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>15</u>	x 4 = <u>60</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>15</u> (A)	<u>60</u> (B)	Prevalence Index = B/A = <u>4.00</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>15</u>	x 4 = <u>60</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>15</u> (A)	<u>60</u> (B)																			
Prevalence Index = B/A = <u>4.00</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  <u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
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_____ = Total Cover																				
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>      </u> No <u>X</u>																
_____ = Total Cover																				
_____ = Total Cover																				
_____ = Total Cover																				

Remarks: (Include photo numbers here or on a separate sheet.)



## SOIL

Sampling Point SP6

[illegible]



**VEGETATION** – Use scientific names of plants.

Sampling Point: SP7

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>N/A</u>				<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)  <b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 40%;">Total % Cover of:</th> <th style="width: 60%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>10</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>80</u></td> <td>x 3 = <u>240</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>270</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.70</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>80</u>	x 3 = <u>240</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>270</u> (B)	Prevalence Index = B/A = <u>2.70</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>10</u>	x 1 = <u>10</u>																			
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Column Totals: <u>100</u> (A)	<u>270</u> (B)																			
Prevalence Index = B/A = <u>2.70</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
				<b>Hydrophytic Vegetation Indicators:</b> <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  <u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
=Total Cover																				
				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.  <b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>      </u>																
=Total Cover																				
				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>      </u>																
				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>      </u>																
				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>      </u>																
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				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>      </u>																
				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>      </u>																
				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>      </u>																
				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>      </u>																
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				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>      </u>																
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## SOIL

Sampling Point SP7

[illegible]

# B

## **APPENDIX B**

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Site Photographs





View of upland in area of Sample Point SP1



View of wetland in area of Sample Point SP2



View of wetland in area of Sample Point SP3



View of upland in area of Sample Point SP4

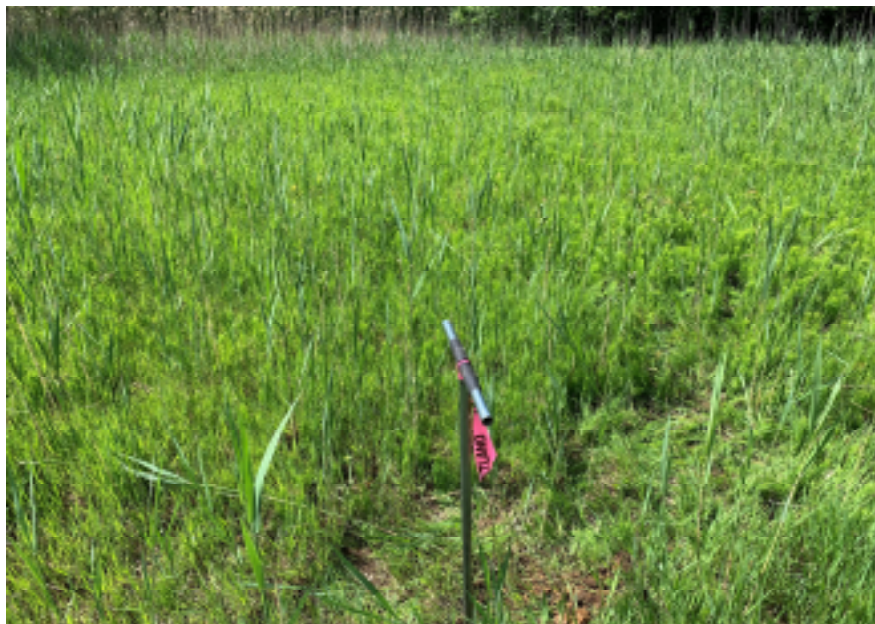




View of wetland in area of Sample Point SP5



View of upland in area of Sample Point SP6



View of wetland in area of Sample Point SP7

# C

## **APPENDIX C**

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NRCS Soil Survey and Hydric Rating





United States  
Department of  
Agriculture

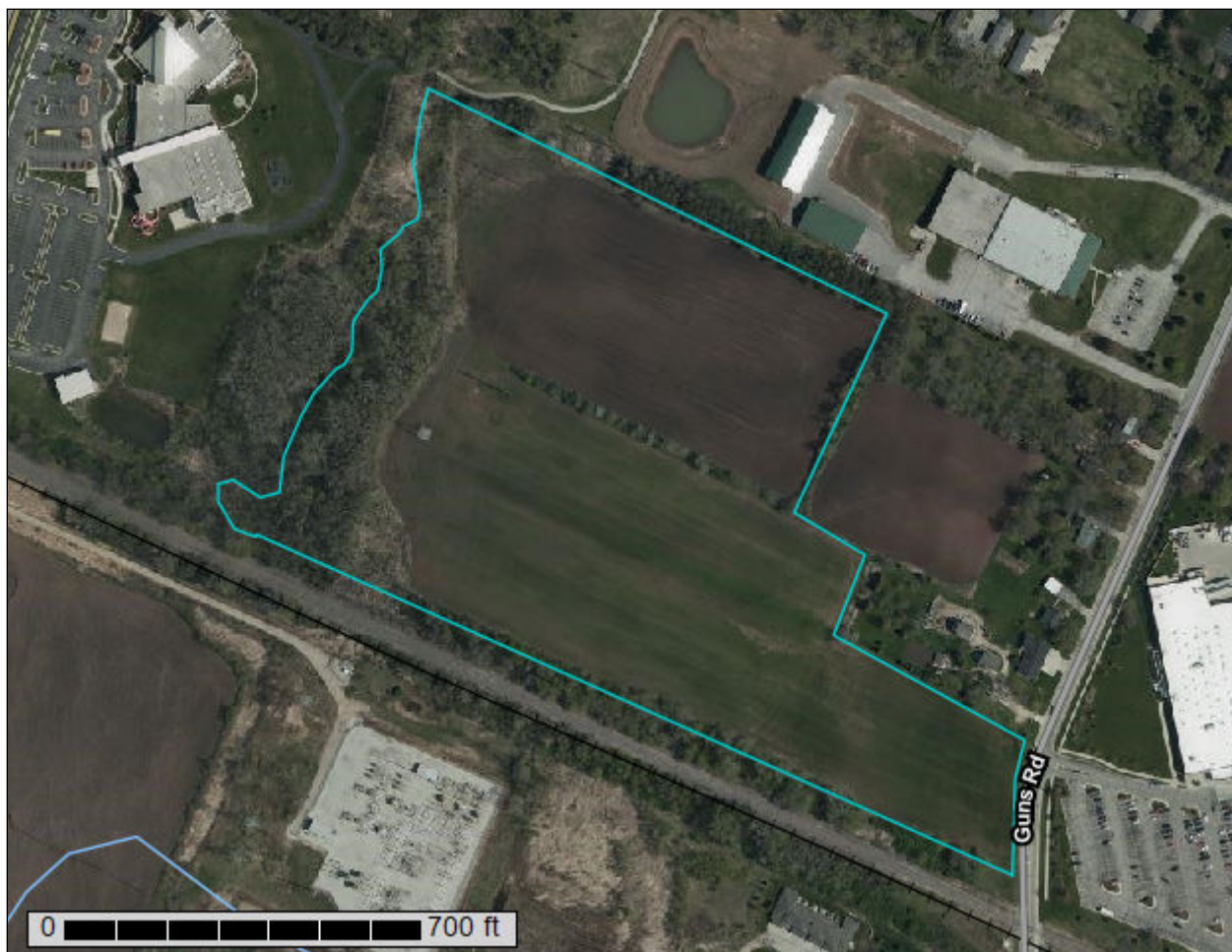
**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for **Brown County, Wisconsin**

**POB Inc. Property**



June 7, 2022

# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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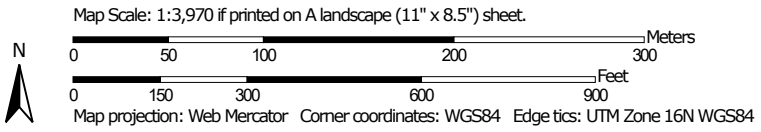


# Soil Map

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The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

# Custom Soil Resource Report Soil Map



# Custom Soil Resource Report

## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

### Water Features

 Streams and Canals

### Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Brown County, Wisconsin  
Survey Area Data: Version 16, Sep 7, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 16, 2020—May 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DsA	Dresden silt loam, wet substratum, 1 to 3 percent slopes	2.8	11.3%
KhB2	Kewaunee silt loam, 2 to 6 percent slopes, eroded	0.3	1.0%
KhC2	Kewaunee silt loam, 6 to 12 percent slopes, eroded	2.0	8.1%
McA	Manawa silty clay loam, 0 to 3 percent slopes	18.4	74.2%
MeB	Manistee loamy fine sand, 2 to 6 percent slopes	1.3	5.4%
<b>Totals for Area of Interest</b>		<b>24.8</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Brown County, Wisconsin

### DsA—Dresden silt loam, wet substratum, 1 to 3 percent slopes

#### Map Unit Setting

*National map unit symbol:* 2wsq0  
*Elevation:* 590 to 920 feet  
*Mean annual precipitation:* 29 to 31 inches  
*Mean annual air temperature:* 43 to 46 degrees F  
*Frost-free period:* 140 to 161 days  
*Farmland classification:* Prime farmland if drained

#### Map Unit Composition

*Dresden, wet substratum, and similar soils:* 90 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Dresden, Wet Substratum

##### Setting

*Landform:* Plains  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Silty alluvium over loamy glaciofluvial deposits over calcareous sandy and gravelly outwash

##### Typical profile

*Ap - 0 to 9 inches:* silt loam  
*Bt1 - 9 to 17 inches:* silty clay loam  
*2Bt2 - 17 to 34 inches:* sandy clay loam  
*3C - 34 to 79 inches:* stratified sand to gravel

##### Properties and qualities

*Slope:* 1 to 3 percent  
*Depth to restrictive feature:* 24 to 40 inches to strongly contrasting textural stratification  
*Drainage class:* Somewhat poorly drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.60 to 2.00 in/hr)  
*Depth to water table:* About 0 to 24 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* Occasional  
*Calcium carbonate, maximum content:* 20 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water supply, 0 to 60 inches:* Low (about 5.1 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 2w  
*Hydrologic Soil Group:* B/D  
*Forage suitability group:* Mod AWC, high water table (G095AY004WI)  
*Other vegetative classification:* Mod AWC, high water table (G095AY004WI)  
*Hydric soil rating:* No

## Minor Components

### Fabius

*Percent of map unit:* 5 percent  
*Landform:* Outwash terraces  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

### Sebewa

*Percent of map unit:* 5 percent  
*Landform:* Depressions  
*Landform position (three-dimensional):* Dip  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Hydric soil rating:* Yes

## KhB2—Kewaunee silt loam, 2 to 6 percent slopes, eroded

### Map Unit Setting

*National map unit symbol:* 2t03z  
*Elevation:* 730 to 1,000 feet  
*Mean annual precipitation:* 29 to 34 inches  
*Mean annual air temperature:* 43 to 46 degrees F  
*Frost-free period:* 135 to 194 days  
*Farmland classification:* All areas are prime farmland

### Map Unit Composition

*Kewaunee, eroded, and similar soils:* 95 percent  
*Minor components:* 5 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Kewaunee, Eroded

#### Setting

*Landform:* Ground moraines  
*Landform position (two-dimensional):* Summit, backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Thin loess over clayey till and/or calcareous, dense clayey till

#### Typical profile

*Ap - 0 to 7 inches:* silt loam  
*2Bt - 7 to 27 inches:* silty clay  
*2Cd - 27 to 79 inches:* clay loam

#### Properties and qualities

*Slope:* 2 to 6 percent

## Custom Soil Resource Report

*Depth to restrictive feature:* 20 to 29 inches to densic material  
*Drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.60 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 30 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water supply, 0 to 60 inches:* Low (about 3.8 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 2e  
*Hydrologic Soil Group:* D  
*Forage suitability group:* Mod AWC, adequately drained (G095AY005WI)  
*Other vegetative classification:* Mod AWC, adequately drained (G095AY005WI)  
*Hydric soil rating:* No

### Minor Components

#### Manawa

*Percent of map unit:* 3 percent  
*Landform:* Drainageways  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Concave  
*Hydric soil rating:* No

#### Poygan, occasionally ponded

*Percent of map unit:* 2 percent  
*Landform:* Depressions  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Hydric soil rating:* Yes

## KhC2—Kewaunee silt loam, 6 to 12 percent slopes, eroded

### Map Unit Setting

*National map unit symbol:* 2tjxs  
*Elevation:* 610 to 1,020 feet  
*Mean annual precipitation:* 29 to 35 inches  
*Mean annual air temperature:* 43 to 48 degrees F  
*Frost-free period:* 134 to 183 days  
*Farmland classification:* Farmland of statewide importance



**Map Unit Composition**

*Kewaunee, eroded, and similar soils: 95 percent*

*Minor components: 5 percent*

*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Kewaunee, Eroded**

**Setting**

*Landform: Moraines*

*Landform position (two-dimensional): Backslope*

*Landform position (three-dimensional): Side slope*

*Down-slope shape: Convex*

*Across-slope shape: Linear*

*Parent material: Thin loess over clayey till and/or calcareous, dense clayey till*

**Typical profile**

*Ap - 0 to 7 inches: silt loam*

*2Bt - 7 to 27 inches: silty clay*

*2Cd - 27 to 79 inches: silty clay loam*

**Properties and qualities**

*Slope: 6 to 12 percent*

*Depth to restrictive feature: 25 to 40 inches to densic material*

*Drainage class: Well drained*

*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)*

*Depth to water table: More than 80 inches*

*Frequency of flooding: None*

*Frequency of ponding: None*

*Calcium carbonate, maximum content: 30 percent*

*Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*

*Available water supply, 0 to 60 inches: Low (about 3.7 inches)*

**Interpretive groups**

*Land capability classification (irrigated): None specified*

*Land capability classification (nonirrigated): 3e*

*Hydrologic Soil Group: D*

*Forage suitability group: Mod AWC, adequately drained (G095AY005WI)*

*Other vegetative classification: Mod AWC, adequately drained (G095AY005WI)*

*Hydric soil rating: No*

**Minor Components**

**Kewaunee**

*Percent of map unit: 5 percent*

*Landform: Moraines*

*Landform position (two-dimensional): Summit, backslope*

*Landform position (three-dimensional): Side slope*

*Down-slope shape: Convex*

*Across-slope shape: Linear*

*Hydric soil rating: No*

## **McA—Manawa silty clay loam, 0 to 3 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 2t732  
*Elevation:* 730 to 1,000 feet  
*Mean annual precipitation:* 29 to 31 inches  
*Mean annual air temperature:* 43 to 46 degrees F  
*Frost-free period:* 130 to 178 days  
*Farmland classification:* Prime farmland if drained

### **Map Unit Composition**

*Manawa and similar soils:* 90 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Manawa**

#### **Setting**

*Landform:* Drainageways  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Concave  
*Parent material:* Clayey till and/or calcareous, dense clayey till

#### **Typical profile**

*Ap - 0 to 9 inches:* silty clay loam  
*Bt - 9 to 35 inches:* silty clay  
*Cd - 35 to 79 inches:* silty clay

#### **Properties and qualities**

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* 31 to 36 inches to densic material  
*Drainage class:* Somewhat poorly drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.60 in/hr)  
*Depth to water table:* About 7 to 24 inches  
*Frequency of flooding:* NoneRare  
*Frequency of ponding:* Occasional  
*Calcium carbonate, maximum content:* 30 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water supply, 0 to 60 inches:* Low (about 4.4 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 2w  
*Hydrologic Soil Group:* D  
*Forage suitability group:* Mod AWC, high water table (G095AY004WI)  
*Other vegetative classification:* Mod AWC, high water table (G095AY004WI)  
*Hydric soil rating:* No

## Minor Components

### Kewaunee

*Percent of map unit:* 6 percent  
*Landform:* Ground moraines  
*Landform position (two-dimensional):* Summit, backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

### Poygan, occasionally ponded

*Percent of map unit:* 4 percent  
*Landform:* Depressions  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Hydric soil rating:* Yes

## MeB—Manistee loamy fine sand, 2 to 6 percent slopes

### Map Unit Setting

*National map unit symbol:* g9hq  
*Elevation:* 600 to 1,020 feet  
*Mean annual precipitation:* 27 to 33 inches  
*Mean annual air temperature:* 43 to 46 degrees F  
*Frost-free period:* 120 to 150 days  
*Farmland classification:* Farmland of statewide importance

### Map Unit Composition

*Manistee and similar soils:* 90 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Manistee

#### Setting

*Landform:* Lakebeds (relict)  
*Landform position (three-dimensional):* Rise  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Sandy lacustrine deposits over clayey lacustrine deposits

#### Typical profile

*Ap,Bs1 - 0 to 11 inches:* loamy fine sand  
*Bs2,E/B - 11 to 27 inches:* sand  
*2Bt - 27 to 46 inches:* clay  
*2C - 46 to 60 inches:* clay

## Custom Soil Resource Report

### Properties and qualities

*Slope:* 2 to 6 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low (0.00 in/hr)  
*Depth to water table:* About 60 to 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 25 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water supply, 0 to 60 inches:* Moderate (about 6.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3s  
*Hydrologic Soil Group:* A  
*Forage suitability group:* Low AWC, adequately drained (G095AY002WI)  
*Other vegetative classification:* Low AWC, adequately drained (G095AY002WI)  
*Hydric soil rating:* No

### Minor Components

#### Allendale

*Percent of map unit:* 7 percent  
*Landform:* Lakebeds (relict)  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Wauseon

*Percent of map unit:* 3 percent  
*Landform:* Depressions  
*Landform position (three-dimensional):* Dip  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Hydric soil rating:* Yes



# Soil Information for All Uses

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## Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

## Land Classifications

This folder contains a collection of tabular reports that present a variety of soil groupings. The reports (tables) include all selected map units and components for each map unit. Land classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

## Hydric Rating by Map Unit (WI)

This Hydric Soil Category rating indicates the components of map units that meet the criteria for hydric soils. Map units are composed of one or more major soil components or soil types that generally make up 20 percent or more of the map unit and are listed in the map unit name, and they may also have one or more minor contrasting soil components that generally make up less than 20 percent of the map unit. Each major and minor map unit component that meets the hydric criteria is rated **hydric**. The map unit class ratings based on the hydric components present are: WI Hydric, WI Predominantly Hydric, WI Partially Hydric, WI Predominantly Nonhydric, and WI Nonhydric. The report also shows the total representative percentage of each map unit that the hydric components comprise.

*"WI Hydric"* means that all major and minor components listed for a given map unit are rated as being hydric. *"WI Predominantly Hydric"* means that all major components listed for a given map unit are rated as hydric, and at least one contrasting minor component is not rated hydric. *"WI Partially Hydric"* means that at least one major component listed for a given map unit is rated as hydric, and at

least one other major component is not rated hydric. *"WI Predominantly Nonhydric"* means that no major component listed for a given map unit is rated as hydric, and at least one contrasting minor component is rated hydric. *"WI Nonhydric"* means no major or minor components for the map unit are rated hydric. The assumption is that the map unit is nonhydric even if none of the components within the map unit have been rated.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

If soils are wet enough for a long enough period of time to be considered hydric, they typically exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Vasilas, Hurt, and Noble, 2010).

The NTCHS has developed criteria to identify those soil properties unique to hydric soils (Federal Register, 2012). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria use selected soil properties that are described in "Field Indicators of Hydric Soils in the United States" (Vasilas, Hurt, and Noble, 2010), "Soil Taxonomy" (Soil Survey Staff, 1999), "Keys to Soil Taxonomy" (Soil Survey Staff, 2010), and the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

The criteria for hydric soils are represented by codes, for example, 2 or 3. Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
  - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
  - B. Show evidence that the soil meets the definition of a hydric soil;
3. Soils that are frequently ponded for long or very long duration during the growing season.
  - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
  - B. Show evidence that the soil meets the definition of a hydric soil;
4. Map unit components that are frequently flooded for long duration or very long duration during the growing season that:
  - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
  - B. Show evidence that the soil meets the definition of a hydric soil;

Hydric Condition: Food Security Act information regarding the ability to grow a commodity crop without removing woody vegetation or manipulating hydrology.

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

## Custom Soil Resource Report

Federal Register. February, 28, 2012. Hydric soils of the United States.  
 Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.  
 Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.  
 Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.  
 Vasilas, L.M., G.W. Hurt, and C.V. Noble, editors. Version 7.0, 2010. Field indicators of hydric soils in the United States.

### Report—Hydric Rating by Map Unit (WI)

Hydric Rating by Map Unit (WI)—Brown County, Wisconsin				
Map Unit Symbol	Map Unit Name	Hydric Percent of Map Unit	Hydric Category	Landform Hydric Minor Components
DsA	Dresden silt loam, wet substratum, 1 to 3 percent slopes	5	WI Predominantly Nonhydric	Depressions
KhB2	Kewaunee silt loam, 2 to 6 percent slopes, eroded	2	WI Predominantly Nonhydric	Depressions
KhC2	Kewaunee silt loam, 6 to 12 percent slopes, eroded	0	WI Nonhydric	—
McA	Manawa silty clay loam, 0 to 3 percent slopes	4	WI Predominantly Nonhydric	Depressions
MeB	Manistee loamy fine sand, 2 to 6 percent slopes	3	WI Predominantly Nonhydric	Depressions

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- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_054262](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262)
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053577](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577)
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053580](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580)
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2\\_053374](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374)
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>



## Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_052290.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf)

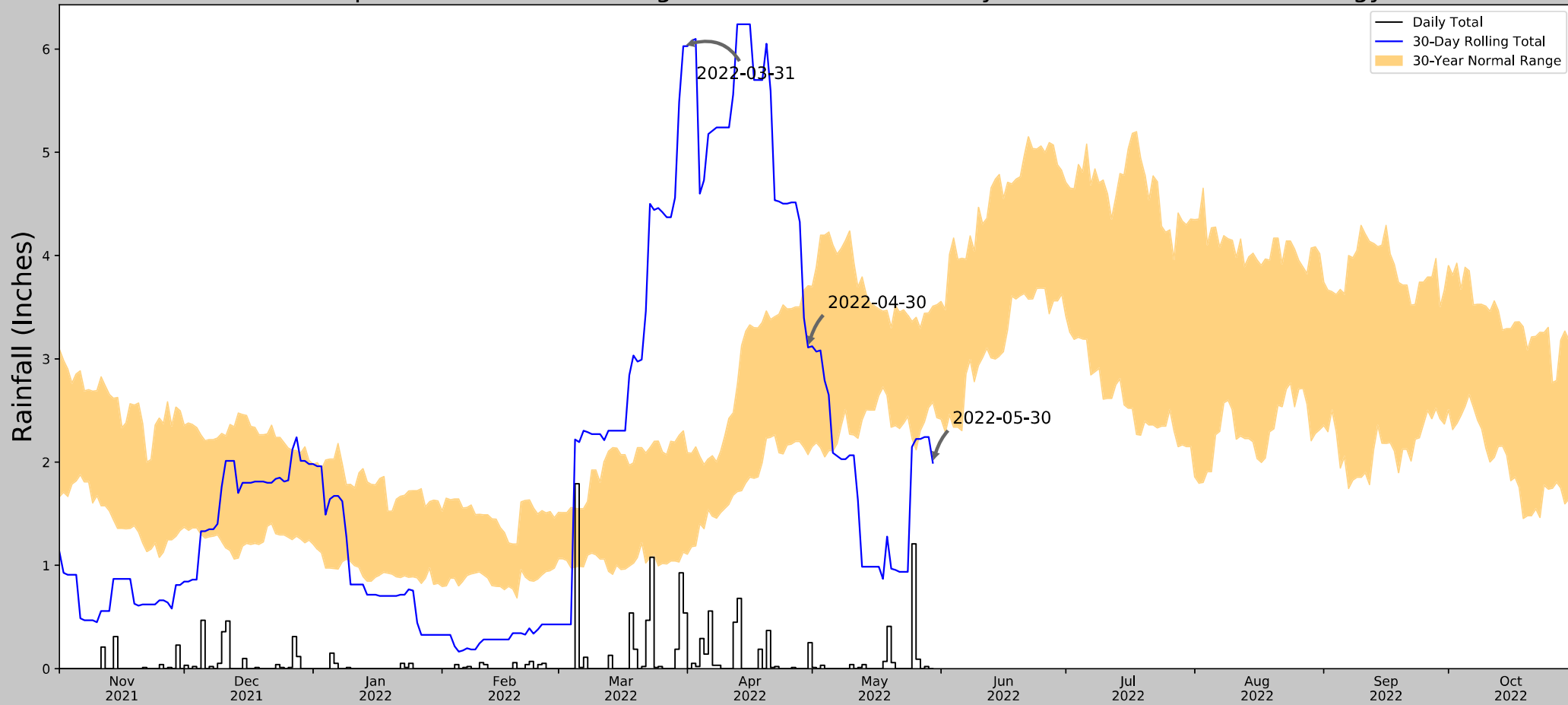
# D

## **APPENDIX D**

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ACOE Antecedent Precipitation

# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	44.479934, -87.976049
Observation Date	2022-05-30
Elevation (ft)	613.0
Drought Index (PDSI)	Moderate wetness (2022-04)
WebWIMP H <sub>2</sub> O Balance	Dry Season

30 Days Ending	30 <sup>th</sup> %ile (in)	70 <sup>th</sup> %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-05-30	2.57874	3.51063	1.992126	Dry	1	3	3
2022-04-30	2.072835	3.707087	3.110236	Normal	2	2	4
2022-03-31	1.126772	2.301969	6.027559	Wet	3	1	3
Result							Normal Conditions - 10



Figure and tables made by the  
Antecedent Precipitation Tool  
Version 1.0

Written by Jason Deters  
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
GREEN BAY	44.4983, -88.1111	682.087	6.777	69.087	3.518	11353	89
GREEN BAY 3.8 SSE	44.4677, -87.9735	621.063	0.855	8.063	0.392	0	1

# E

## **APPENDIX E**

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Wisconsin Wetland Inventory Map





# POB Inc. SWDV WIM



## Legend

- Wetland Indicators
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/draind wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/draind wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Identifications and Confirmations
- NRCS Wetspots
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads

## Notes

0.1 0 0.06 0.1 Miles

NAD\_1983\_HARN\_Wisconsin\_TM

1: 3,960

DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/legal/>

# F

## **APPENDIX F**

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Wetland Hydrology from Aerial Imagery Review

## Wetland Hydrology from Aerial Imagery – Recording Form

Project Name: City of GB Redevelopment Authority Date: 6/15/2022 County: Brown

Investigator: Mark Love - BAY Environmental Legal Description (T,R,S): Sect. 8, T23N, R21E

## Summary Table

Date Image Taken (M-D-Y)	Image Source	Climate Condition (wet, dry, normal)	Image Interpretation(s)			
			Area: 1	Area: 2	Area: 3	Comments
May-20	Brown County GIS	Normal	NC	SS	NC	
Apr-17	Brown County GIS	Wetter than Normal	NC	SS	NC	
May-14	Brown County GIS	Normal	NC	SS	SS	
Apr-10	Brown County GIS	Drier than Normal	NC, SS	SS	NC, SS	
Apr-05	Brown County GIS	Normal	NC	CS	CS	
Apr-00	Brown County GIS	Drier than Normal	NC	SS	NC, SS	
Apr-92	Brown County GIS	Normal	NC	SS	SS,CS	
Jun-78	Brown County GIS	Normal	NC	NSS	NSS	
Normal Climate Condition						
Number of Aerials			5	5	5	
Number with Wet Signatures			5	4	4	
Percent with Wet Signatures			100.00%	80.00%	80.00%	

Key		
WS - wetland signature	SS - soil wetness signature	CS - crop stress
NC - not cropped	AP - altered pattern	NV - normal vegetative cover
DO - drowned out	SW - standing water	NSS – no soil wetness signature

- Use above key to label image interpretations. It is imperative that the reviewer read and understand the guidance associated with the use of these labels. If alternate labels are used, indicate in box above.
- If less than five (5) images taken during normal climate conditions are available, use an equal number of images taken during wet and dry climate conditions and use as many images as you have available. Describe the results using this methodology in your report.

## Wetland Determination from Aerial Imagery – Recording Form

Project Name: City of GB Redevelopment Authority Date: 6/15/2022 County: Brown

Investigator: Mark Love - BAY Environmental Legal Description (T,R,S): Sect. 8, T23N, R21E

Use the Decision Matrix below to complete Table 1.

Hydric Soils present <sub>1</sub>	Identified on NWI or other wetland map <sub>2</sub>	Percent with wet signatures	Field verification required <sub>3</sub>	Wetland?
Yes	Yes	>50%	No	Yes
Yes	Yes	30-50%	No	Yes
Yes	Yes	<30%	Yes	Yes, if other hydrology indicators present
Yes	No	>50%	No	Yes
Yes	No	30-50%	Yes	Yes, if other hydrology indicators present
Yes	No	<30%	No	No
No	Yes	>50%	No	Yes
No	Yes	30-50%	No	Yes
No	Yes	<30%	No	No
No	No	>50%	Yes	Yes, if other hydrology indicators present
No	No	30-50%	Yes	Yes, if other hydrology indicators present
No	No	<30%	No	No

Area	Hydric Soils Present	Identified on NWI or other wetland map	Percent with wet signatures	Other hydrology indicators present <sub>4</sub>	Wetland from Aerial Review
1	No	Yes	100.00%	Yes	Yes
2	No	Yes	80.00%	Yes	Yes
3	No	N	80.00%	Yes	Yes

<sub>1</sub> The presence of hydric soils can be determined from the “Hydric Rating by Map Unit Feature” under “Land Classifications” from the Web Soil Survey. “Not Hydric” is the only category considered to not have hydric soils. Field sampling for the presence/absence of hydric soil indicators can be used in lieu of the hydric rating if appropriately documented by providing completed field data sheets.

<sub>2</sub> At minimum, the most updated NWI data available for the area must be reviewed for this step. Any and all other local or regional wetland maps that are publically available should be reviewed.

<sub>3</sub> Area should be reviewed in the field for the presence/absence of wetland hydrology indicators per the applicable 87 Manual Regional Supplement, including the D2 indicator (geomorphic position).

<sub>4</sub> Answer “N/A” if field verification is not required and was not conducted.



2020

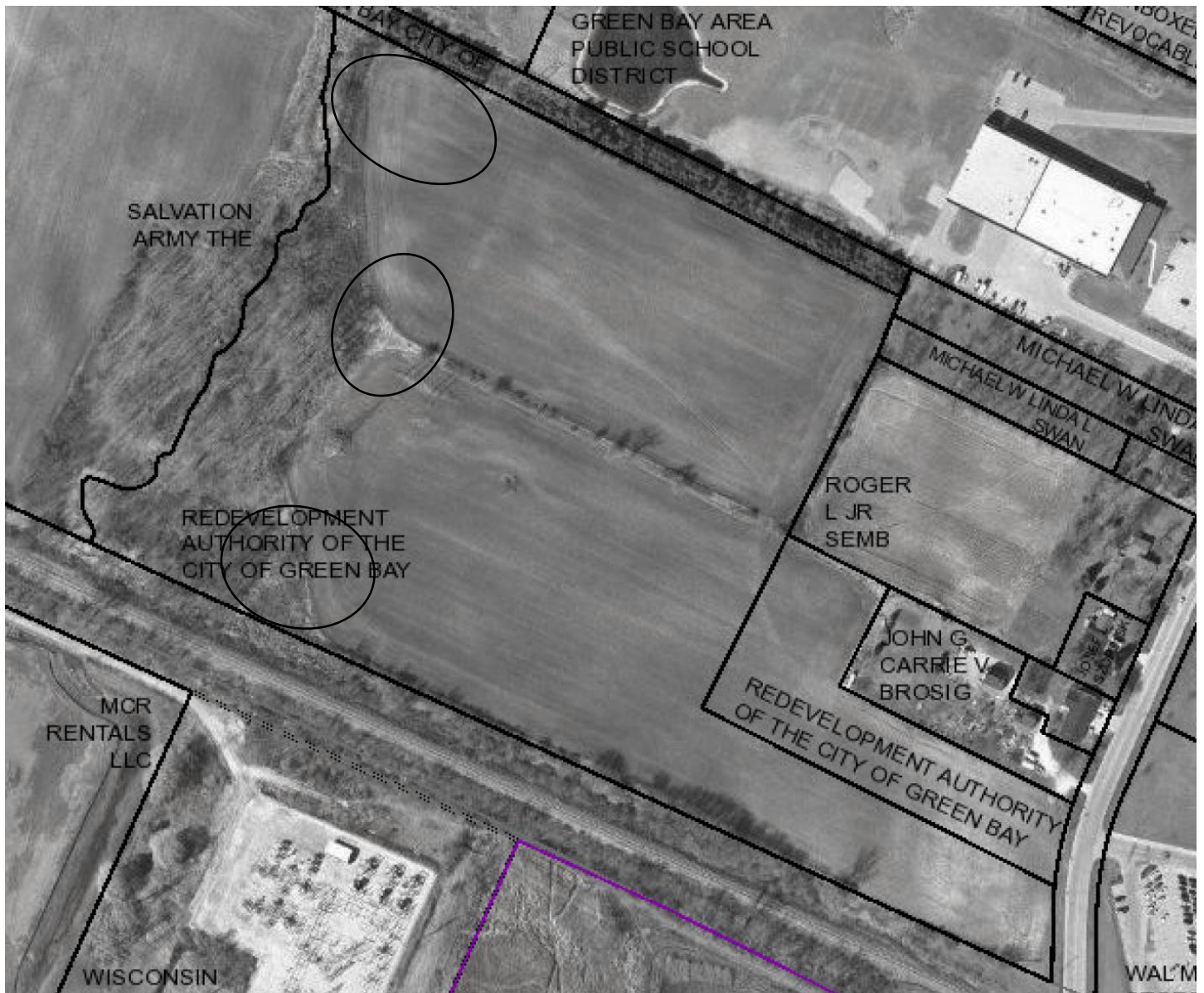




2014



2005





1992



1978





# G

## **APPENDIX G**

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Assured Wetland Delineator Confirmation Letter



April 1, 2022

Mark Love  
Bay Environmental Strategies  
2920 S. Webster Ave. Suite C  
Green Bay, WI 54301

Subject: 2022 Assured Wetland Delineator Confirmation

Dear Mr. Love:

This letter provides Wisconsin Department of Natural Resources (WDNR) confirmation for the wetland delineations you conduct during the 2022 growing season. You and your clients will not need to wait for the WDNR to review your wetland delineations before moving forward with project planning. This will help expedite the review process for WDNR's wetland regulatory program. Your name and contact information will continue to be listed on our website at: <http://dnr.wi.gov/topic/wetlands/assurance.html>.

In the instance where a municipality may require a letter of confirmation for your work prior to moving forward in the local regulatory process, this letter shall serve as that confirmation. Although your wetland delineations do not require WDNR field review, inclusion of a Wetland Delineation Report is required for projects needing State authorized wetland, waterway and/or storm water permit approvals.

In order to comply with Chapter 23.321, State Statutes, please supply the department with a polygon shapefile of the wetland boundaries delineated within the project area. Please do not include data such as parcel boundaries, project limits, wetland graphic representation symbols, etc. If internal upland polygons are found within a wetland polygon, then please label as UPLAND. The shapefile should utilize a State Plane Projection and be overlain onto recent aerial photography. If a different projection system is used, please indicate in which system the data are projected. In the correspondence sent with the shapefile, please supply a brief description of each wetland's plant community (eg: wet meadow, floodplain forest, etc.). Please send these data to Calvin Lawrence (608-266-0756 or email at [calvin.lawrence@wisconsin.gov](mailto:calvin.lawrence@wisconsin.gov)).

If you or any client has a question regarding your status in the Wetland Delineation Professional Assurance Program, contact me by email at [kara.brooks@wisconsin.gov](mailto:kara.brooks@wisconsin.gov) or phone at 414-308-6780. Thank you for all your hard work and best wishes for the upcoming field season.

Sincerely,

Kara Brooks  
Wetland Identification Coordinator  
Bureau of Watershed Management